

FIG. 1A

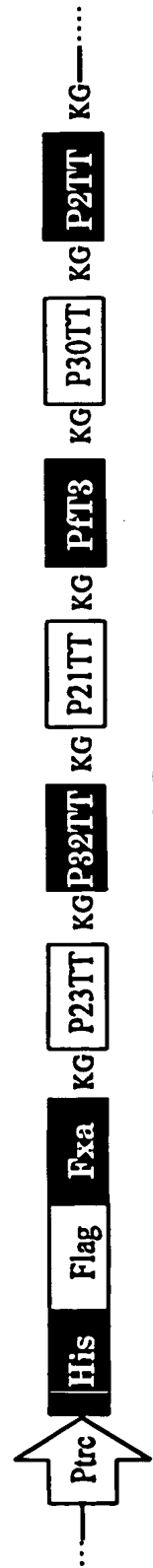
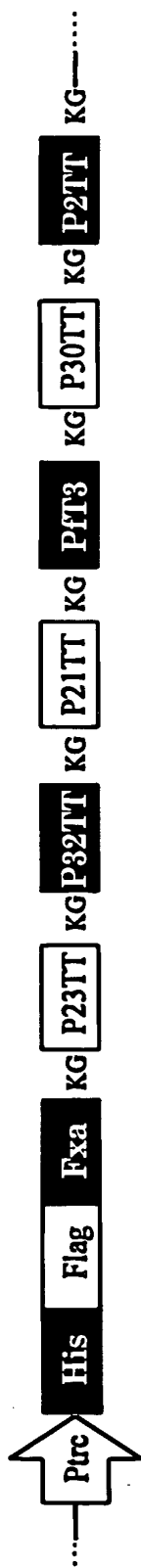


FIG. 1B



ATG GGG GGT TCT CAT CAT CAT CAT GGT ATG GCT AGC ATG GAT TAC AAG GAC GAC GAT GAT ATC GAA GGT CGC
Met Gly Gly Ser His His His His His Gly Met Ala Ser Met Asp Tyr Lys Asp Asp Asp Ile Glu Gly Arg

AAA GGT GTT TCC ATC GAC AAA TTC CGT ATC TTC TGC AAA GCT AAC CCG AAA AAA GGT CTG AAA TTC ATC ATC AAA CGT
Lys Gly Val Ser Ile Asp Lys Phe Arg Ile Phe Cys Lys Ala Asn Pro Lys Lys Gly Leu Lys Phe Ile Ile Lys Arg

TAC ACC CCG AAC AAC GAA ATC GAC TCC AAA GGT ATC CGT GAA GAC AAC AAC ATC ACC CTG AAA CTG GAC CGT TGC AAC
Tyr Thr Pro Asn Asn Glu Ile Asp Ser Lys Gly Ile Arg Glu Asp Asn Asn Ile Thr Leu Lys Leu Asp Arg Cys Asn

AAC AAA GGT GAA AAG AAG ATC GCT AAA ATG GAA AAA GCT TCT TCT GTT TTC AAC GTT GTT AAC TCT AAA GGT TTC AAC
Asn Lys Gly Glu Lys Lys Ile Ala Lys Met Glu Lys Ala Ser Ser Val Phe Asn Val Val Asn Ser Lys Gly Phe Asn

AAC TTC ACC GTT TCC TTC TGG CTG CGT GTT CCG AAA GTT TCC GCT TCC CAC CTG GAA AAA GGT CAG TAC ATC AAA GCT
Asn Phe Thr Val Ser Phe Trp Leu Arg Val Pro Lys Val Ser Ala Ser His Leu Glu Lys Gly Gln Tyr Ile Lys Ala

AAC TCC AAA TTC ATC GGT ATC ACC GAA AAA GGT GGA TCC TAA
Gln Ser Lys Phe Ile Gly Ile Thr Glu Lys Gly Gly Ser End

FIG. 2A



AAA GGT GTT TCC ATC GAC AAA TTC CGT ATC TTC TGC AAA GCT AAC CCG AAA AAA GGT CTG AAA TTC ATC ATC AAA CGT
Lys Gly Val Ser Ile Asp Lys Phe Arg Ile Phe Cys Lys Ala Asn Pro Lys Gly Leu Lys Phe Ile Ile Lys Arg

Tyr Thr Pro Asn Asn Glu Ile Asp Ser Lys Gly Ile Arg Glu Asp Asn Asn Ile Thr Leu Lys Leu Asp Arg Cys Asn

Asn Lys Gly Lys Lys Ile Ala Lys Lys Met Glu Lys Ala Ser Ser Val Phe Asn Val Val Asn Ser Lys Gly Phe Asn

AAAC TTC ACC GTT TCC TTC TGG CTG CGT GTT CCG AAA GTT TCC GCT TCC CAC CTG GAA AAA GGT CAG TAC ATC AAA GCT
AAsn Phe Thr Val Ser Phe Trp Leu Arg Val Pro Lys Val Ser Ala Ser His Leu Glu Lys Gly Gln Tyr Ile Lys Ala

FIG. 2B



AAC TCC AAA TTC ATC GGT ATC ACC GAA AAA GGT GGA TCT CCG CAT CAT ACC GCG CTG CCG CAG GCG ATT CTG TGC TGG
Gln Ser Lys Phe Ile Gly Ile Thr Glu Lys Gly Ser Pro His His Thr Ala Leu Arg Gln Ala Ile Leu Cys Trp

GGC GAA CTG ATG ACC CTG GCG AAA GGA TCT CCG AAA TAT GTG AAA CAG AAC ACC CTG AAA CTG GCG ACC AAA GGA TCG
Gly Glu Leu Met Thr Leu Ala Lys Gly Ser Pro Lys Tyr Val Lys Lys Gln Asn Thr Leu Lys Leu Ala Thr Lys Gly Ser

TTT TTT CTG CTG ACC CCG ATT CTG ACC ATT CCG CAG TCT CTG GAT AAA GGC TAT TCT GCG CCG CTG AAA GCG GAA ATT
Phe Phe Leu Leu Thr Arg Ile Leu Thr Ile Pro Gln Ser Leu Asp Lys Gly Tyr Ser Gly Pro Leu Lys Ala Glu Ile

GCG CAG CCG CTG GAA GAT GTG AAA GGA TCC TAA
Ala Gln Arg Leu Glu Asp Val Lys Gly Ser End

FIG. 2C

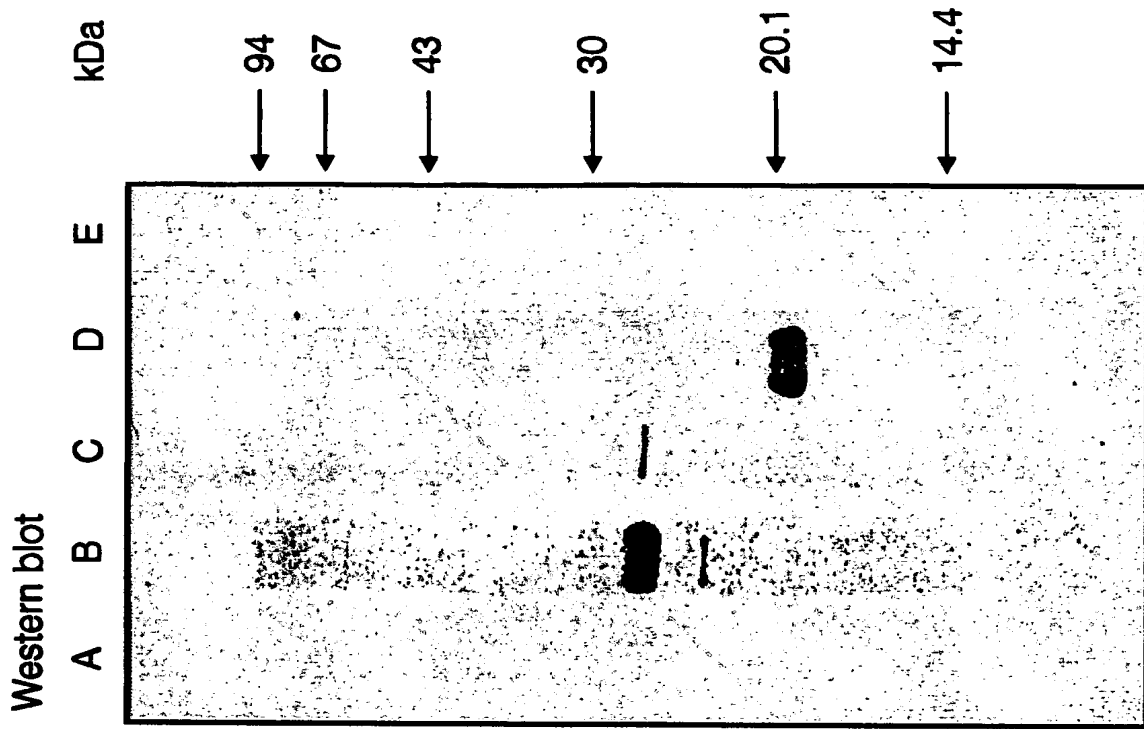


FIG. 4

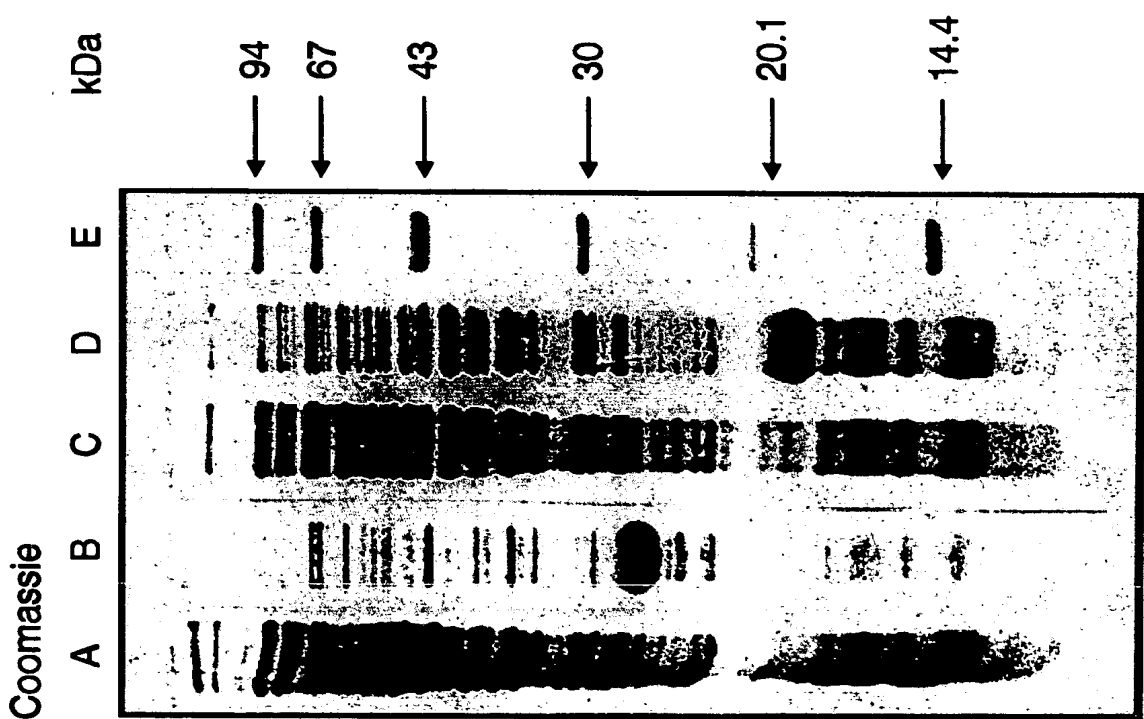


FIG. 3

Coomassie

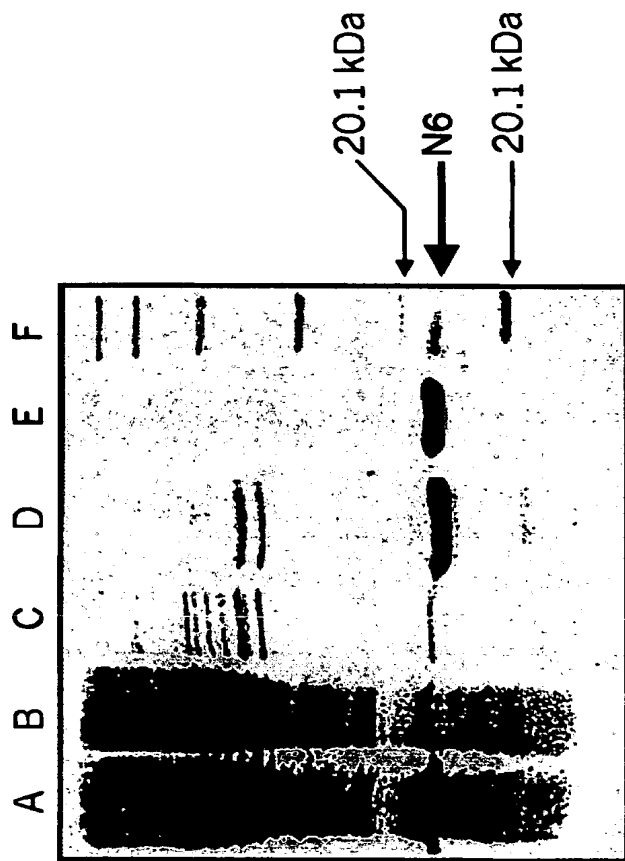


FIG. 5

Western blot

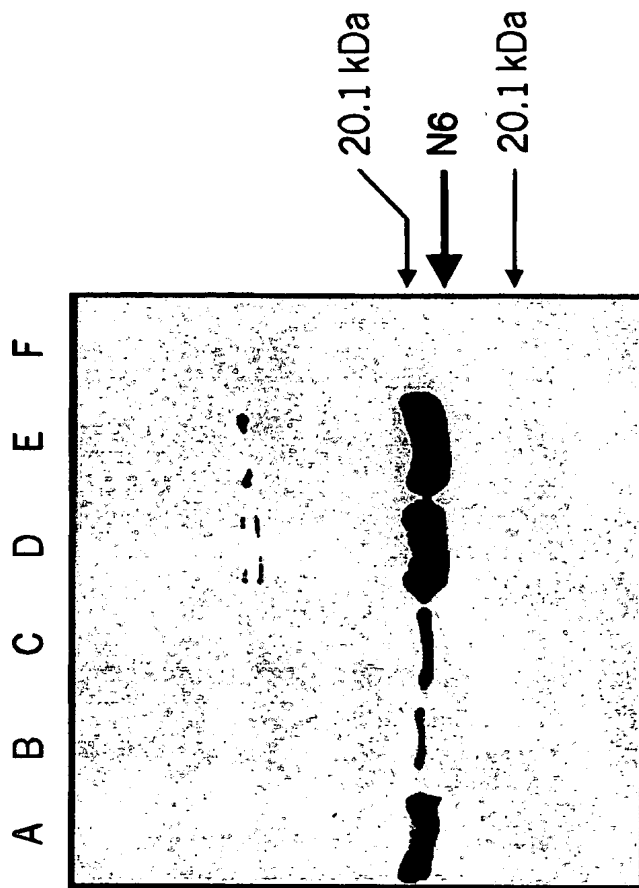
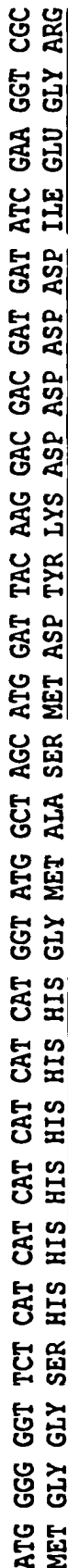


FIG. 6



AAAAA GGT GTT TCC ATC GAC AAA TTC CGT ATC TTC TGC AAA GCT AAC CCG AAA AAA GGT CTG AAA TTC ATC ATC AAA CGT
 LYS GLY VAL SER ILE ASP LYS PHE ARG ILE PHE CYS LYS ALA ASN PRO LYS LYS GLY LEU LYS PHE ILE ILE LYS ARG

TTAC ACC CCG AAC AAC GAA ATC GAC TCC AAA GGT ATC CGT GAA GAC AAC AAC ATC ACC CTG AAA CTG GAC CGT TGC AAC

AAAC AAA GGT GAA AAG AAG ATC GCT AAA ATG GAA AAA GCT TCT TCT GTT AAC GTT AAC TCT AAA GGT TTC AAC

AAC TTC ACC GTT TCC TTC TGG CTG CGT GTT CCG AAA GTT TCC GCT TCC CAC CTG GAA AAA GGT CAG TAC ATC AAA GCT
 AASN PHE THR VAL SER PHE TRP LEU ARG VAL PRO LYS VAL SER ALA SER HIS LEU GLU LYS GLY GLN TYR ILE LYS ALA

AAAC TCC AAA TTC ATC GGT ATC ACC GAA AAA GGT GGA TCT CCG CAT ACC GCG CTG CGC CAG GCG ATT CTG TGC TGG
 TTN SER LYS PHE ILE GLY ILE THR GLU LYS GLY GLY SER PRO HIS HIS THR ALA LEU ARG GLN ALA ILE LEU CYS TRP

FIG. 7A



GGC GAA CTG ATG ACC CTG GCG AAA GGA TCT CCG AAA TAT GTG AAA CAG AAC ACC CTG AAA CTG GCG ACC AAA GGA TCG
GLY GLU LEU MET THR LEU ALA LYS GLY SER PRO LYS TYR VAL LYS GLN ASN THR LEU LYS LEU ALA THR LYS GLY SER

TTT TTT CTG CTG ACC GCG ATT CTG ACC ATT CCG CAG TCT CTG GAT AAA GGC TAT TCT GGC CCG CTG AAA GCG GAA ATT
PHE PHE LEU LEU THR ARG ILE LEU THR ILE PRO GLN SER LEU ASP LYS GLY TYR SER GLY PRO LEU LYS ALA GLU ILE

GCG CAG CCG CTG GAA GAT GTG AAA GGA TCT CAG CCG TCT GTT CAG ATT CAG GTG TAT CAG GGT GAA CGT GAA ATC GCA
ALA GLN ARG LEU GLU ASP VAL LYS GLY SER GLN PRO SER VAL GLN ILE GLN VAL TYR GLN GLY GLU ARG GLU ILE ALA

TCT CAT AAC AAA GGA TCC TAA
SER HIS ASN LYS GLY SER END

FIG. 7B

[illegible]

AAA GGT GTT TCC ATC GAC AAA TTC CGT ATC TTC TGC AAA GGT CTG AAA TTC ATC AAA CGT
 LYS GLY VAL SER ILE ASP LYS PHE ARG ILE PHE CYS LYS ALA ASN PRO LYS LYS GLY LEU LYS PHE ILE ILE LYS ARG

TAC ACC CCG AAC AAC GAA ATC GAC TCC AAA GGT ATC CGT GAA GAC AAC AAC ATC ACC CTG AAA CTG GAC CGT TGC AAC
 TYR THR PRO ASN ASN GLU ILE ASP SER LYS GLY ILE ARG GLU ASP ASN ASN ILE THR LEU LYS LEU ASP ARG CYS ASN

AAC AAA GGT GAA AAG AAG ATC GCT AAA ATG GAA AAA GCT TCT TCT TTC AAC GTT AAC TCT AAA GGT TTC AAC
ASN ASN LYS GLY GLU LYS LYS ILE ALA LYS MET GLU LYS ALA SER SER VAL PHE ASN VAL ASN SER LYS GLY PHE ASN

AAAC TTC ACC GTT TCC TTC TGG CTG CGT GTT CCG AAA GTT TCC GCT TCC CAC CTG GAA AAA GGT CAG TAC ATC AAA GCT
AASN PHE THR VAL SER PHE TRP LEU ARG VAL PRO LYS VAL SER ALA SER HIS LEU GLU LYS GLY GLN TYR ILE LYS ALA

AAC TCC AAA TTC ATC GGT ACC GAA AAA GGT GGA TCT CCG CAT CAT ACC GCG CTG CCG CAG GCG ATT CTG TGC TGG
Gln Ser Lys Phe Ile Gly Ile Thr Glu **Lys** Gly Gly Ser Pro His His Thr Ala Leu Arg Gln Ala Ile Leu Cys Tr

GGC GAA CTG ATG ACC CTG GCG AAA GGA TCT CCG AAA TAT GTG AAA CAG AAC ACC CTG AAA CTG GCG ACC AAA GGA TCG
GGLY GLU LEU MET THR LEU ALA **LYS GLY** SER PRO LYS TYR VAL LYS GLN ASN THR LEU LYS LEU ALA THR **LYS GLY** SER

FIG. 8A



TTT TTT CTG ACC CGC ATT CTG ACC ATT CCG CAG TCT CTG GAT AAA GGC TAT TCT GGC CCG CTG AAA GCG GAA ATT
PHE PHE LEU LEU THR ARG ILE LEU THR ILE PRO GLN SER LEU ASP LYS GLY TYR SER GLY PRO LEU LYS ALA GLU ILE

GCG CAG CGC CTG GAA GAT GTG AAA GGA TCT GTT TCC ATC GAC AAA TTC CGT ATC TTC TGC AAA GCT AAC CCG AAA AAA
ALA GLN ARG LEU GLU ASP VAL LYS GLY SER VAL SER ILE ASP LYS PHE ARG ILE PHE CYS LYS ALA ASN PRO LYS LYS

GGT CTG AAA TTC ATC ATC AAA CGT TAC ACC CCG AAC AAC GAA ATC GAC TCC AAA GGT ATC CGT GAA GAC AAC AAC ATC
GLY LEU LYS PHE ILE ILE LYS ARG TYR THR PRO ASN ASN GLU ILE ASP SER LYS GLY ILE ARG GLU ASP ASN ASN ILE

ACC CTG AAA CTG GAC CGT TGC AAC AAC AAA GGT GAA AAG AAG ATC GCT AAA ATG GAA AAA GCT TCT TCT TTC AAC
THR LEU LYS LEU ASP ARG CYS ASN ASN LYS GLY GLU LYS LYS ILE ALA LYS MET GLU LYS ALA SER SER VAL PHE ASN

GTT GTT AAC TCT AAA GGT TTC AAC AAC TTC ACC GTT TCC TTC TGG CTG CGT GTT CCG AAA GTT TCC GCT TCC CAC CTG
VAL VAL ASN SER LYS GLY PHE ASN ASN PHE THR VAL SER PHE TRP LEU ARG VAL PRO LYS VAL SER ALA SER HIS LEU

GAA AAA GGT CAG TAC ATC AAA GCT AAC TCC AAA TTC ATC GGT ATC ACC GAA AAA GGT GGA TCT CCG CAT CAT ACC GCG
GLU LYS GLY GLN TYR ILE LYS ALA GLN SER LYS PHE ILE GLY ILE THR GLU LYS GLY GLY SER PRO HIS HIS THR ALA

CTG CGC CAG GCG ATT CTG TGC TGG GGC GAA CTG ATG ACC CTG GCG AAA GGA TCT CCG AAA TAT GTG AAA CAG AAC ACC
LEU ARG GLN ALA ILE LEU CYS TRP GLY GLU LEU MET THR LEU ALA LYS GLY SER PRO LYS TYR VAL LYS GLN ASN THR

CTG AAA CTG GCG ACC AAA GGA TCG TTT TTT CTG CTG ACC CGC ATT CTG ACC ATT CCG CAG TCT CTG GAT AAA GGA TCC
LEU LYS LEU ALA THR LYS GLY SER PHE PHE LEU LEU THR ARG ILE LEU THR ILE PRO GLN SER LEU ASP LYS GLY SER

FIG. 8B

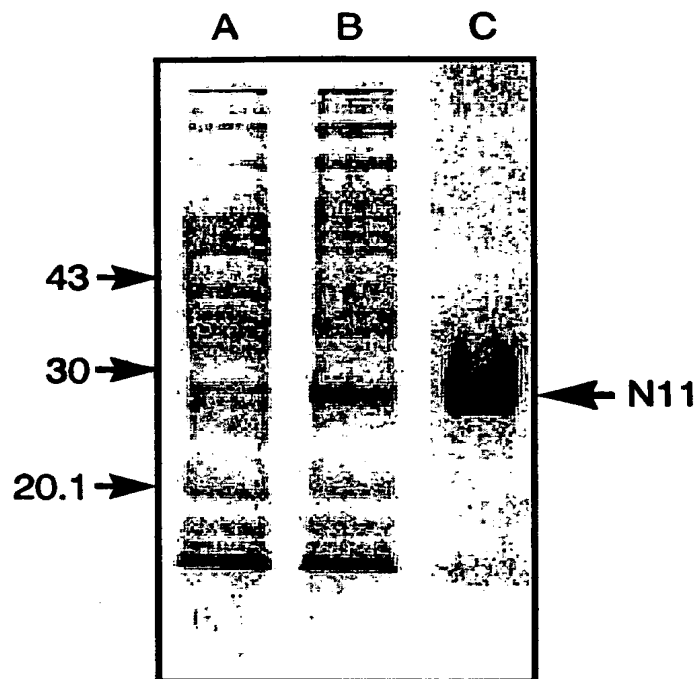


FIG. 9

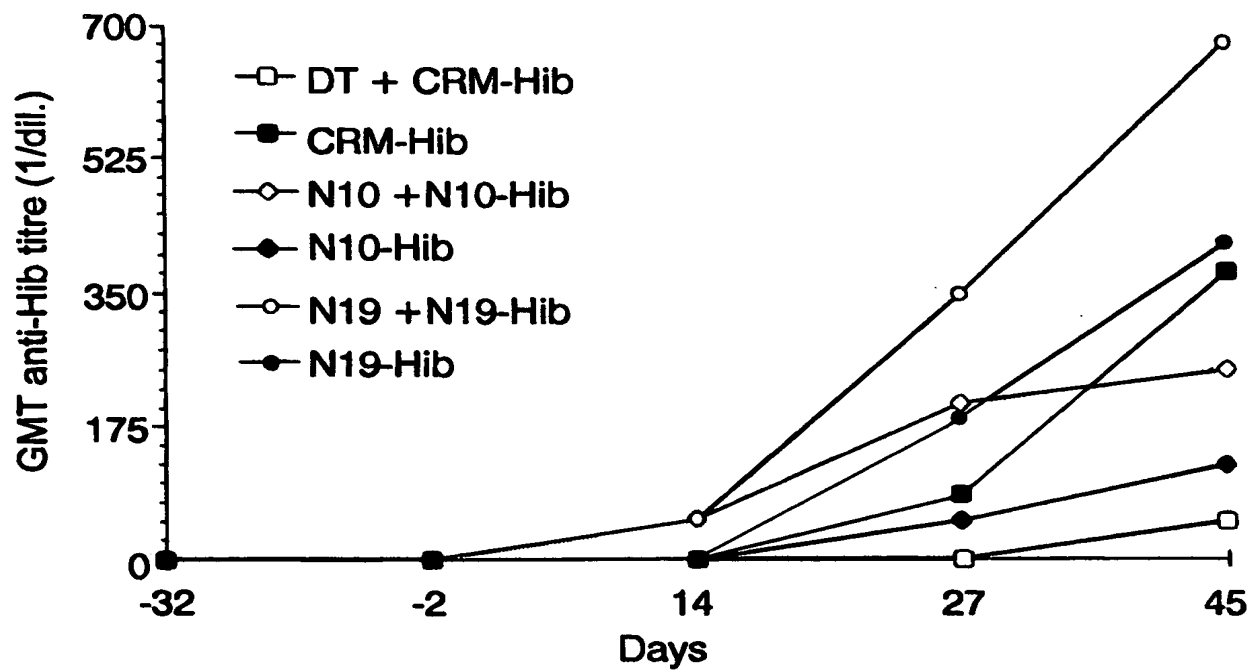


FIG. 13

FIG. 10A

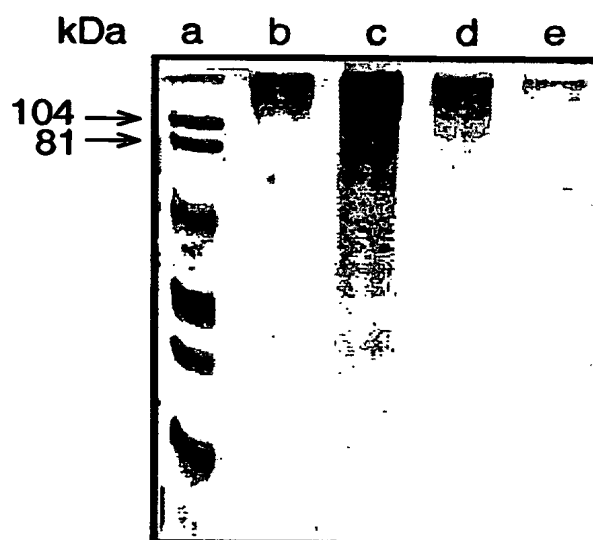
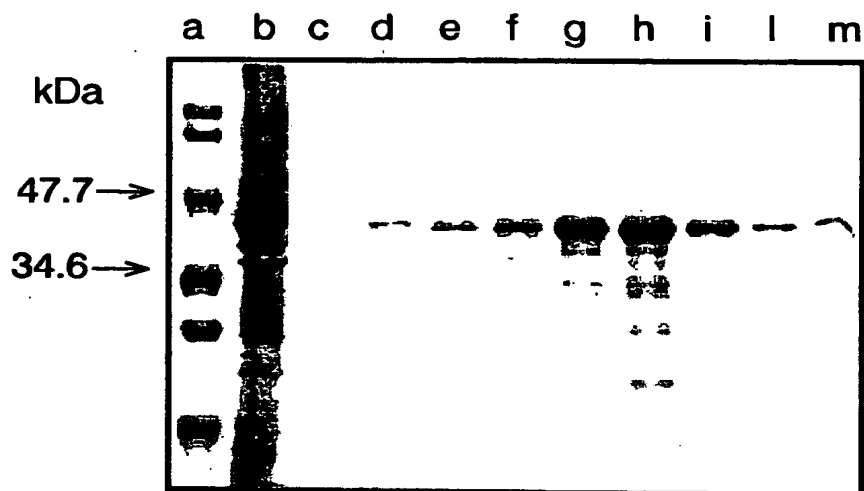


FIG. 10B

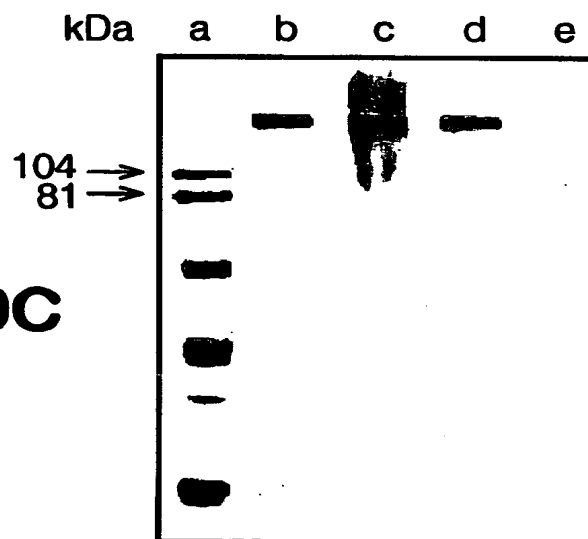


FIG. 10C

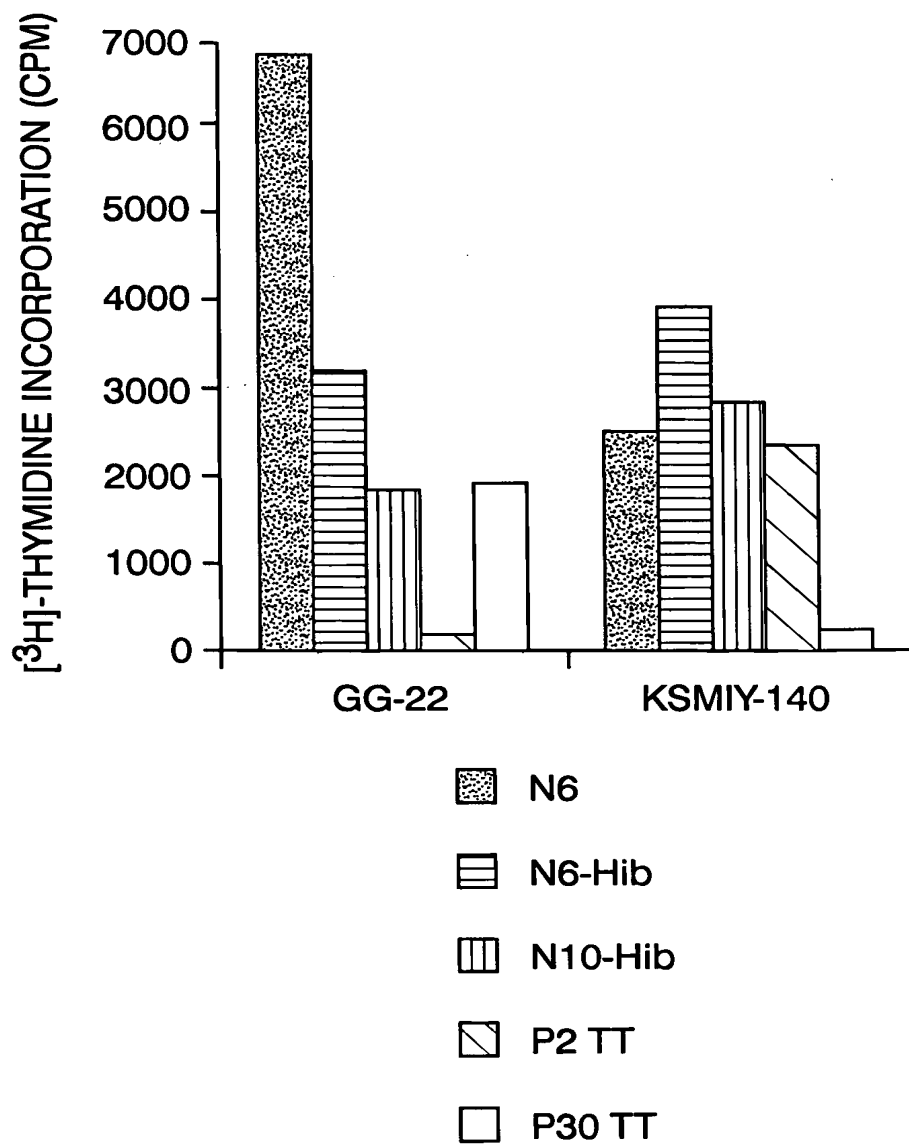


FIG. 11

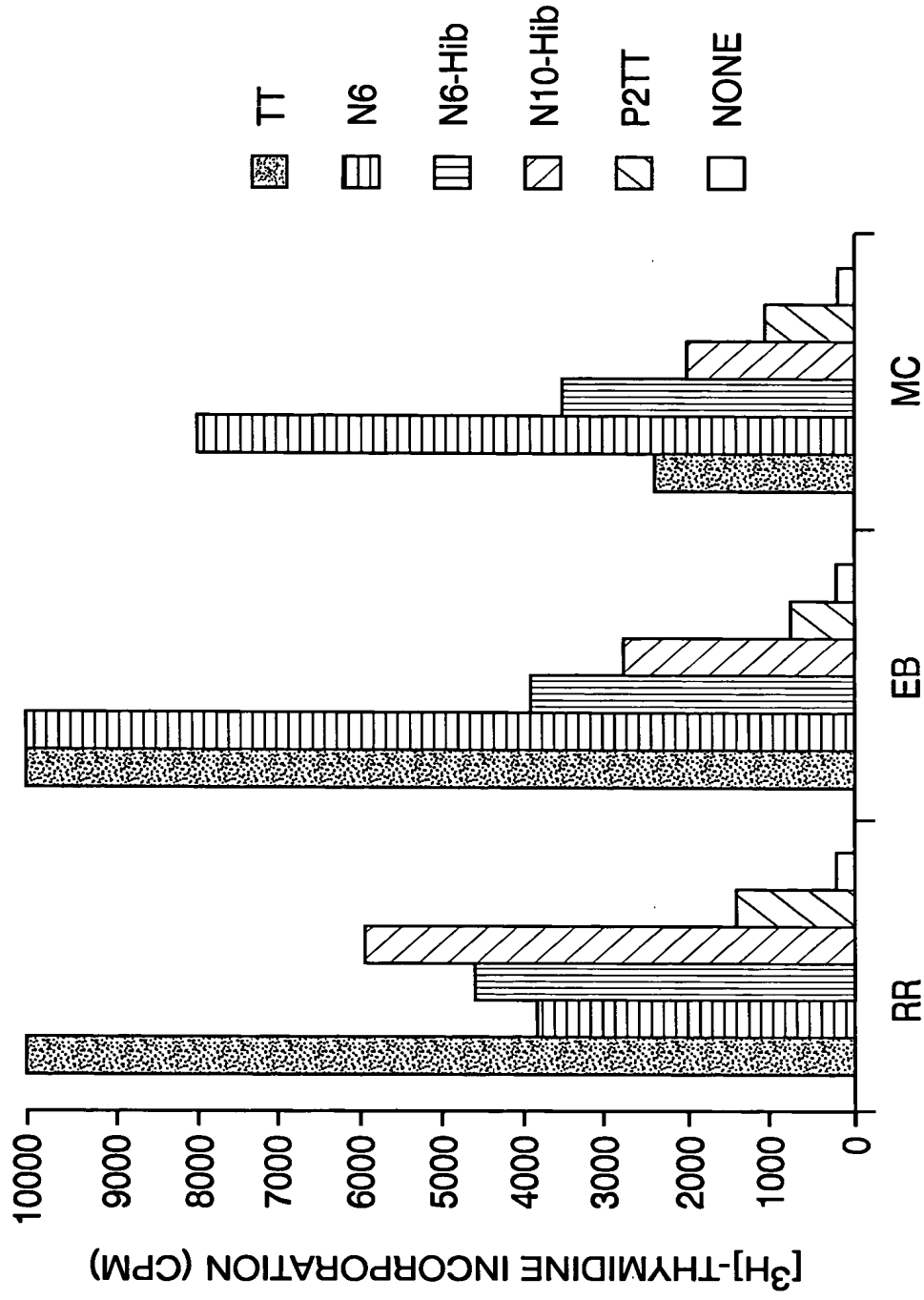


FIG. 12

**This Page is Inserted by IFW Indexing and Scanning
Operations and is not part of the Official Record**

BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images include but are not limited to the items checked:

- ☐ **BLACK BORDERS**
- ☐ **IMAGE CUT OFF AT TOP, BOTTOM OR SIDES**
- ☐ **FADED TEXT OR DRAWING**
- ☐ **BLURRED OR ILLEGIBLE TEXT OR DRAWING**
- ☐ **SKEWED/SLANTED IMAGES**
- ☐ **COLOR OR BLACK AND WHITE PHOTOGRAPHS**
- ☐ **GRAY SCALE DOCUMENTS**
- ☐ **LINES OR MARKS ON ORIGINAL DOCUMENT**
- ☐ **REFERENCE(S) OR EXHIBIT(S) SUBMITTED ARE POOR QUALITY**
- ☐ **OTHER:** _____

IMAGES ARE BEST AVAILABLE COPY.

As rescanning these documents will not correct the image problems checked, please do not report these problems to the IFW Image Problem Mailbox.